

SEDAR

SouthEast Data, Assessment, and Review

South Atlantic Fishery Management Council
Gulf of Mexico Fishery Management Council
Caribbean Fishery Management Council
NOAA Fisheries Southeast Fisheries Science Center
NOAA Fisheries Southeast Regional Office
Atlantic States Marine Fisheries Commission
Gulf States Marine Fisheries Commission

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MEMORANDUM

TO: Robert Mahood, Executive Director, SAFMC
FROM: Julie A. Neer, SEDAR Coordinator
DATE: February 2, 2010
RE: Approval of Terms of Reference for SEDAR 23, Gulf of Mexico and South Atlantic Goliath Grouper

The Florida Fish and Wildlife Conservation Commission have approved the Institute to conduct a benchmark assessment for Goliath Grouper at their December 2009 meeting. It is their intention that the assessment be conducted following general SEDAR procedures, with FWRI coordinating the Data and Assessment Workshops and SEDAR organizing the Review Workshop. A SEDAR Coordinator will serve as liaison between the Institute and the Councils.

Given that the Commission expects delivery of the completed and reviewed assessment in time for their December 2010, we are moving forward with planning while we await official approval, including a SEDAR benchmark number from the SEDAR Steering Committee, which is expected in early February.

To that end, enclosed are draft Terms of Reference for the SEDAR 23 Goliath Grouper workshops. Please review this information, modify if necessary, and approve according to Gulf Council SEDAR procedures.

I would appreciate it if this matter could be included for discussion at your March 2010 Council meeting. Please inform me of the results of your consideration by March 12, 2010.

Thank you for your attention to this matter.

Julie A Neer

SEDAR 23. Gulf of Mexico and South Atlantic Goliath Grouper

Draft January 22, 2010 (recommended for approval by GMFMC SSC)

I. Data Workshop

1. Characterize stock structure and develop a unit stock definition. Provide maps of species and stock distribution.
2. Review, discuss and tabulate available life history information (e.g., age, growth, natural mortality, reproductive characteristics); provide appropriate models to describe growth, maturation, and fecundity by age, sex, or length as applicable. Evaluate the adequacy of available life-history information for conducting stock assessments and recommend life history information for use in population modeling.
3. Provide measures of population abundance that are appropriate for stock assessment. Consider and discuss all available and relevant fishery dependent and independent data sources. Document all programs evaluated, addressing program objectives, methods, coverage, sampling intensity, and other relevant characteristics. Provide maps of survey coverage. Develop CPUE and index values by appropriate strata (e.g., age, size, area, and fishery); provide measures of precision and accuracy. Evaluate the degree to which available indices adequately represent fishery and population conditions. Recommend which data sources are considered adequate and reliable for use in assessment modeling.
4. Characterize commercial and recreational catch, including both landings and discard, in pounds and number. Provide estimates of discard mortality rates by fishery and other strata as appropriate or feasible. Evaluate and discuss the adequacy of available data for accurately characterizing harvest and discard by species and fishery sector. Provide length and age distributions if feasible. Provide maps of fishery effort and harvest.
5. Provide recommendations for future research in areas such as sampling, fishery monitoring, and stock assessment. Include specific guidance on sampling intensity (number of samples including age and length structures) and appropriate strata and coverage.
6. Develop a spreadsheet of assessment model input data that reflects the decisions and recommendations of the Data Workshop. Review and approve the contents of the input spreadsheet by June 1.
7. Prepare the Data Workshop report providing complete documentation of workshop actions and decisions (Section II. of the SEDAR assessment report). Develop a list of tasks to be completed following the workshop.

2. Assessment Process

1. Review any changes in data following the data workshop and any analyses suggested by the data workshop. Summarize data as used in each assessment model. Provide justification for any deviations from Data Workshop recommendations.
2. Develop population assessment models that are compatible with available data and recommend which model and configuration is deemed most reliable or useful for providing advice. Document all input data, assumptions, and equations.
3. Provide estimates of stock population parameters (fishing mortality, abundance, biomass, selectivity, stock-recruitment relationship, etc); include appropriate and representative measures of precision for parameter estimates.
4. Characterize uncertainty in the assessment and estimated values, considering components such as input data, modeling approach, and model configuration. Provide appropriate measures of model performance, reliability, and 'goodness of fit'.
5. Provide yield-per-recruit, spawner-per-recruit, and stock-recruitment evaluations, including figures and tables of complete parameters.
6. Provide estimates for SFA criteria consistent with applicable FMPs, proposed FMPs and Amendments, other ongoing or proposed management programs, and National Standards. This may include: evaluating existing SFA benchmarks, estimating alternative SFA benchmarks; and recommending proxy values.
7. Provide declarations of stock status relative to SFA benchmarks.
8. Perform a probabilistic analysis of proposed reference points and provide the probability of overfishing at various harvest or exploitation levels.
9. Project future stock conditions (biomass, abundance, and exploitation) and develop rebuilding schedules if warranted; include estimated generation time. Stock projections shall be developed in accordance with the following:
 - A) If stock is overfished:
F=0, F=current, F=Fmsy, Ftarget (OY),
F=Frebuild (max that rebuild in allowed time)
 - B) If stock is overfishing
F=Fcurrent, F=Fmsy, F= Ftarget (OY)
 - C) If stock is neither overfished nor overfishing
F=Fcurrent, F=Fmsy, F=Ftarget (OY)
10. Provide recommendations for future research and data collection (field and assessment); be as specific as practicable in describing sampling design and sampling intensity and emphasize items which will improve future assessment capabilities and reliability.
11. Prepare an accessible, documented, labeled, and formatted spreadsheet containing all model parameter estimates and all relevant population information resulting from model estimates and any projection and simulation exercises. Include all data included in assessment report tables and all data that support assessment workshop figures.
12. Complete the Assessment Process Report (Section III of the SEDAR Stock Assessment Report), prepare a first draft of the Summary Report, and develop a list of tasks to be completed following the workshop.

3. Review Workshop

1. Evaluate the adequacy, appropriateness, and application of data used in the assessment.
2. Evaluate the adequacy, appropriateness, and application of methods used to assess the stock.
3. Recommend appropriate estimates of stock abundance, biomass, and exploitation.
4. Evaluate the methods used to estimate population benchmarks and management parameters (e.g., *MSY*, *F_{msy}*, *B_{msy}*, *MSST*, *MFMT*, or their proxies); recommend appropriate management benchmarks and provide estimated values for management benchmarks, and declarations of stock status.
5. Evaluate the adequacy, appropriateness, and application of the methods used to project future population status; recommend appropriate estimates of future stock condition (e.g., exploitation, abundance, biomass).
6. Evaluate the adequacy, appropriateness, and application of methods used to characterize uncertainty in estimated parameters. Provide measures of uncertainty for estimated parameters. Ensure that the implications of uncertainty in technical conclusions are clearly stated.
7. Ensure that stock assessment results are clearly and accurately presented in the Stock Assessment Report and that reported results are consistent with Review Panel recommendations.
8. Evaluate the SEDAR Process as applied to the reviewed assessments and identify any Terms of Reference which were inadequately addressed by the Data or Assessment Workshops.
9. Consider the research recommendations provided by the Data and Assessment workshops and make any additional recommendations or prioritizations warranted. Clearly denote research and monitoring needs that could improve the reliability of future assessments. Recommend an appropriate interval for the next assessment, and whether a benchmark or update assessment is warranted.
10. Prepare a Peer Review Summary summarizing the Panel's evaluation of the stock assessment and addressing each Term of Reference. Develop a list of tasks to be completed following the workshop. Complete and submit the Summary Report within 3 weeks of workshop conclusion.

The review panel may request additional sensitivity analyses, evaluation of alternative assumptions, and correction of errors identified in the assessments provided by the assessment workshop panel; the review panel may not request a new assessment. Additional details regarding the latitude given the review panel to deviate from assessments provided by the assessment workshop panel are provided in the *SEDAR Guidelines* and the *SEDAR Review Panel Overview and Instructions*.

** The panel shall ensure that corrected estimates are provided by addenda to the assessment report in the event corrections are made in the assessment, alternative model configurations are recommended, or additional analyses are prepared as a result of review panel findings regarding the TORs above.**